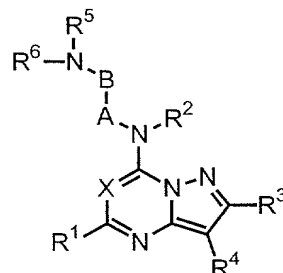


WHAT IS CLAIMED IS:

1. A compound of the formula



- 5 or a pharmaceutically acceptable salt, hydrate, or prodrug thereof, wherein:

X is N or CR¹⁴;

R¹ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

R² is H,

C₁-C₆ alkyl which optionally forms a C₃-C₆ aminocarbocycle or a C₂-C₅ aminoheterocycle with A or B, each of which is optionally substituted with R⁷,

C₃-C₁₀ cycloalkyl, or

(C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; or

R² and R⁶ jointly with the 2 nitrogen atoms to which they are bound, form a C₂-C₅ aminoheterocycle optionally substituted with R⁷, or

R² and A jointly form a C₃-C₆ aminocarbocycle or a C₂-C₅ aminoe heterocycle optionally substituted at with R⁷;

A represents an alkyl chain of 1,2, or 3 carbon atoms which is optionally mono- or di-substituted at each carbon with substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, C₁-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, and C₁-C₆ alkyl-NR⁸R⁹, or

A and B jointly form a C₃-C₆ carbocycle, optionally substituted at each atom with R⁷;

15
5 B represents an alkyl chain of 1,2 or 3 carbons atoms, which is optionally mono- or di-substituted at each carbon with substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, and C₁-C₆ alkyl-NR⁸R⁹, or

B and R² jointly form a C₃-C₆ aminocarbocycle, which is optionally substituted at each atom with R⁷, or

10 B and R⁶ jointly form a C₃-C₆ aminocarbocycle, which is optionally substituted at each atom with R⁷;

15 R³ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

20 R⁴ is selected from aryl or heteroaryl, each of which is substituted with 1 to 5 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, C₁-C₆ alkynyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted;

25 R⁵ is selected from:

C₁-C₆ alkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is substituted with 1 to 5 groups independently selected at each occurrence from halo, C₁-C₂ haloalkyl, oxo, OR⁷, cyano, NR⁸R⁹, CONR⁸R⁹, COOR⁷, SO₂NR⁸R⁹, SO₂R⁷, NR¹¹COR¹², NR¹¹SO₂R⁷;

30 Aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl, aryl(C₅-C₈)cycloalkyl, or heteroaryl(C₅-C₈)cycloalkyl, each of which is optionally substituted with 1 to 5 substituents

independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

C₃-C₁₀ cycloalkyl or C₂-C₉ heterocycloalkyl containing one, two, or three O, S, or N atoms, each of which is optionally substituted with 1 to 6 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, oxo, halogen, C₁-C₆ haloalkyl, OR⁷, NR⁸R⁹, (with the proviso that when two OR⁷ or NR⁸R⁹ substituents are geminally located on the same carbon R⁷ is not H and the geminally located OR⁷ or NR⁸R⁹ substituents can be taken together to form a C₂-C₄ ketal, oxazoline, oxazolidine, imidazoline, or imidazolidine heterocycle), C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, oxo, hydroximino, C₁-C₆ alkoximino, SO₂NR⁸R⁹, SO₂R⁷, heterocycloalkyl, aryl, heteroaryl, where aryl or heteroaryl is optionally substituted with 1 to 5 substituents independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), with the proviso that 2 adjacent substituents can optionally form together a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

aryl or heteroaryl, optionally substituted with 1 to 5 substituents independently selected at each occurrence from halogen, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

or

3- or 4-piperidinyl, 3-pyrrolidinyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-tetrahydrothiopyranyl, 3- or 4-(1,1-dioxo) tetrahydrothiopyranyl, 1-azabicyclo[4.4.0]decyl, 8-azabicyclo[3.2.1]octanyl, norbornyl, quinuclidinyl, indolin-2-one-3-yl, 2-(methoximino)-perhydroazepin-6-yl, each optionally substituted with 1 to 5 substituents independently selected at each occurrence from R^7 , C_1 - C_6 alkyl-OR⁷, C_1 - C_6 alkyl-NR⁸R⁹, CONR⁸R⁹, CN, COOR⁷, SO₂NR⁸R⁹, and SO₂R⁷;

10 R^6 is selected from H, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, C_2 - C_4 alkenyl, aryl(C_1 - C_6)alkyl, heteroaryl(C_1 - C_6)alkyl each of which is optionally substituted with 1 to 5 substituents independently from halogen, C_1 - C_6 haloalkyl, OR¹³, NR⁸R⁹, C_1 - C_6 alkyl-OR¹³, C_1 - C_6 alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, and SO₂R⁷;

15 R^7 is independently selected at each occurrence from H, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, C_3 - C_{10} cycloalkenyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, C_1 - C_3 haloalkyl, or heterocycloalkyl, C_1 - C_8 alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C_1 - C_8 alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C_1 - C_6 arylalkyl or C_1 - C_6 heteroarylalkyl each optionally substituted with 1 to 5 substituents independently selected from halogen, C_1 - C_6 haloalkyl, OR¹³, NR⁸R⁹, C_1 - C_6 alkyl-OR¹³, C_1 - C_6 alkyl-NR⁸R⁹, CONR⁸R⁹, COOR¹³, CN, SO₂NR⁸R⁹, and SO₂R¹³, with the proviso that when R^7 is SO₂R¹³, R¹³ cannot be H

25 R^8 and R^9 are independently selected at each occurrence from H, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, C_2 - C_6 alkenyl, C_3 - C_{10} cycloalkenyl, C_2 - C_6 alkynyl, heterocycloalkyl, C_1 - C_8 alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C_1 - C_6 arylalkyl or C_1 - C_6 heteroarylalkyl, or R^8 and R^9 , taken together, can form a C_3 - C_6 aminocarbocycle or a C_2 - C_5 aminoheterocycle each of which is optionally substituted with C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, C_3 - C_{10} cycloalkenyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, C_1 - C_3 haloalkyl,

or heterocycloalkyl, C₁-C₈ alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C₁-C₈ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl;

R¹¹ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl;

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R¹² is selected from H, aryl, heteroaryl, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, optionally substituted with OR⁷, NR⁸R⁹, C₃-C₆ aminocarbocycle, or C₂-C₅ aminoheterocycle;

10 R¹³ is independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, with the proviso that when R⁷ is SO₂R¹³, R¹³ cannot be H; and

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R¹⁴ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₄ alkenyl, C₂-C₄ alkynyl, halo, or CN.

2. A compound according to Claim 1, wherein

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R⁵ is phenyl, naphthyl, 2-,3-, or 4-pyridyl, 2-, 4- or 5-pyrimidinyl, triazinyl, 1-, 2- or 4-imidazolyl, 2-, 4-, or 5-oxazolyl, isoxazolyl, indolyl, pyrazolyl, quinolyl, isoquinolyl, 2-, 4-, or 5-thiazolyl, benzothiadiazolyl, 1-, 3- or 4-pyrazolyl, 1-, 3- or 4-triazolyl, 2-triazinyl, 2-pyrazinyl, 2-, or 3-furanyl, 2-, or 3-thienyl, 2-, or 3-benzothienyl, or 1-, 2- or 5-tetrazolyl each of which is optionally substituted with 1 to 5 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein 2 adjacent substituents may be taken together to form a cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring.

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3. A compound according to Claim 1, wherein

X is N R¹ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; and
R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl.

4. A compound according to Claim 1, wherein

5 X is N;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl; and

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl.

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5. A compound according to Claim 1, wherein;

X is N;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

15 R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl;

R⁴ is phenyl, mono, di, or trisubstituted with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted,

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R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl;

and R⁷, R⁸, and R⁹ are as defined in Claim 1.

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6. A compound according to Claim 1, wherein:

X is N;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

30 R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl;

R⁴ is phenyl, mono, di, or trisubstituted with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted,

R⁵ is

C₁-C₆ alkyl, C₃-C₁₀cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is substituted with 1 to 5 groups independently selected at each occurrence from halo, C₁-C₂ haloalkyl, OR⁷, cyano, NR⁸R⁹, CONR⁸R⁹, COOR⁷, SO₂NR⁸R⁹, SO₂R⁷, NR¹¹COR¹², NR¹¹SO₂R⁷; or

3- or 4-piperidinyl, 3-pyrrolidinyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-tetrahydrothiopyranyl, 3- or 4-(1,1-dioxo) tetrahydrothiopyranyl, 1-azabicyclo[4.4.0]decyl, 8-azabicyclo[3.2.1]octanyl, norbornyl, quinuclidinyl, indolin-2-one-3-yl, 2-(methoximino)-perhydroazepin-6-yl, each optionally substituted with 1 to 5 substituents independently selected at each occurrence from R⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, CN, COOR⁷ SO₂NR⁸R⁹, and SO₂R⁷;

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; and R⁷, R⁸, R⁹, R¹¹, and R¹² are as defined in Claim 1.

7. A compound according to Claim 1, wherein;

X is CH,

R¹ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; and

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl.

8. A compound according to Claim 1, wherein:

X is CH;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl; and

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl.

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9. A compound according to Claim 1, wherein;

X is CH;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

10 R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl;

R⁴ is phenyl, mono, di, or trisubstituted with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted,

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; and

R⁷, R⁸, and R⁹ are as defined in Claim 1.

10. A compound according to Claim 1, wherein:

X is CH;

R¹ is C₁-C₆ alkyl;

R² is H or C₁-C₆ alkyl;

25 R³ is C₁-C₆ alkyl, trifluoromethyl, or C₁-C₆alkyl-O C₁-C₆alkyl;

R⁴ is phenyl, mono, di, or trisubstituted with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the

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positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted,

R⁵ is

C₁-C₆ alkyl, C₃-C₁₀cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is substituted with 1 to 5 groups independently selected at each occurrence from halo, C₁-C₂ haloalkyl, OR⁷, cyano, NR⁸R⁹, CONR⁸R⁹, COOR⁷, SO₂NR⁸R⁹, SO₂R⁷, NR¹¹COR¹², NR¹¹SO₂R⁷; or

3- or 4-piperidinyl, 3-pyrrolidinyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-tetrahydrothiopyranyl, 3- or 4-(1,1-dioxo) tetrahydrothiopyranyl, 1-azabicyclo[4.4.0]decyl, 8-azabicyclo[3.2.1]octanyl, norbornyl, quinuclidinyl, indolin-2-one-3-yl, 2-(methoximino)-perhydroazepin-6-yl, each optionally substituted with 1 to 5 substituents independently selected at each occurrence from R⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, CN, COOR⁷ SO₂NR⁸R⁹, and SO₂R⁷;

R⁶ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, or (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl; and

R⁷, R⁸, R⁹, R¹¹, and R¹² are as defined in Claim 1.

11. A method for treating eating disorders and cardiovascular disorders comprising administering to a patient suffering from an eating disorder or cardiovascular disorder a compound according to Claim 1.

12. A pharmaceutical composition comprising a compound according to Claims 1 and a pharmaceutically acceptable carrier.

13. A packaged pharmaceutical composition comprising the pharmaceutical composition of Claim 12 in a container and comprising instructions for using the composition to treat a patient suffering from an eating disorder or hypertension.

14. A method for localizing NPY receptors in tissue section samples comprising:

contacting with a sample of tissue a detectably-labeled compound of Claim 1 under conditions that permit binding of the compound to the sample of tissue; washing the tissue sample to remove unbound compound; and detecting the bound compound.

15. The method of Claim 14, wherein the compound is radiolabeled.

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16. A method of inhibiting the binding of NPY to the NPY1 receptor, which method comprises contacting, in the presence of NPY, a solution comprising a compound of Claim 1 with cells expressing the NPY1 receptor, wherein the compound is present in the solution at a concentration sufficient to reduce levels of NPY binding to cells expressing the NPY1 receptor in vitro.

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17. A method for altering the signal-transducing activity of a cell surface NPY1 receptor, said method comprising contacting cells expressing such a receptor with a solution comprising a compound according to Claim 1, wherein the compound is present in the solution at a concentration sufficient to reduce levels of NPY binding to cells expressing the NPY1 receptor in vitro.

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18. A compound according to any one of Claim 1 wherein in an assay of NPY binding the compound exhibits an K_i of 1 micromolar or less.

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19. A compound according to any one of Claim 1 wherein in an assay of NPY binding the compound exhibits an K_i of 100 nanomolar or less.

20. A compound according to any one of Claim 1 wherein in an assay of NPY binding the compound exhibits an K_i of 100 nanomolar or less.

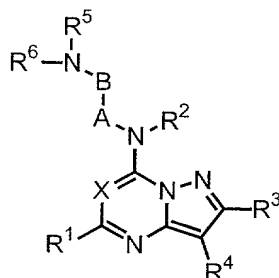
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21. A method for treating obesity or bulimia nervosa which comprises administering an effective amount of a compound according to Claims 1 to a patient in need thereof.

22. A method for treating hypertension which comprises administering an effective amount of a compound according to Claim 1 to a patient in need thereof.

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23. A compound in accordance with formula I



wherein:

5 X is N or CR¹⁴;

R¹ is selected from H, C₁-C₆ alkyl, C₃-C₆ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

R² is H,

C₁-C₆ alkyl which optionally forms a C₃-C₆ aminocarbocycle or a C₂-C₅ aminoheterocycle with A or B, each optionally substituted at each occurrence with R⁷,

C₃-C₁₀ cycloalkyl, or

(C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl;

or R² and R⁶ jointly form with the 2 nitrogen atoms to which they are bound form a C₂-C₅ aminoheterocycle optionally substituted at each occurrence with R⁷;

A is (CH₂)_m, where m is 1,2 or 3 and is optionally mono- or di-substituted on each occurrence with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, or A and B jointly form a C₃-C₆ carbocycle, optionally substituted at each occurrence with R⁷,

or, A and R² jointly form a C₃-C₆ aminocarbocycle or a C₂-C₅ aminoheterocycle optionally substituted at each occurrence with R⁷;

aminoheterocycle optionally substituted at each occurrence with R⁷;

25 B is (CH₂)_n, where n is 1,2 or 3 and is optionally mono- or di-substituted on each occurrence with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl,

C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, and C₁-C₆ alkyl-NR⁸R⁹;

or, as mentioned above, B and A jointly form a C₃-C₆ carbocycle, optionally substituted at each occurrence with R⁷

5 or, as mentioned above, B and R² jointly form a C₁-C₆ aminocarbocycle or a C₂-C₅ aminoheterocycle optionally substituted at each occurrence with R⁷;

R³ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

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R⁴ is selected from aryl or heteroaryl, each of which is substituted with 1 to 5 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, C₁-C₆ alkynyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted;

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R⁵ is selected from:

C₁-C₆ alkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, each of which is substituted with 1 to 5 groups independently selected at each occurrence from halo, C₁-C₂ haloalkyl, oxo, OR⁷, cyano, NR⁸R⁹, CONR⁸R⁹, COOR⁷, SO₂NR⁸R⁹, SO₂R⁷, NR¹¹COR¹², NR¹¹SO₂R⁷;

25 Aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl, aryl(C₅-C₈)cycloalkyl, or heteroaryl(C₅-C₈)cycloalkyl, where aryl is phenyl or naphthyl, and heteroaryl is 2-, 3- or 4-pyridyl, 2-, 4-, or 5- pyrimidinyl, triazinyl, 1-, 2-, or 4-imidazolyl 2-, 4-, or 5-oxazolyl, isoxazolyl~ indolyl, pyrazolyl, quinolyl, isoquinolyl, 2-, 4-, or 5-thiazolyl, benzothiadiazolyl, 1-, 3- or 4- pyrazolyl, 1-, 3- or 4-triazolyl, 2-triazinyl, 2-pyrazinyl, 30 2-, or 3-furanyl, 2-, or 3-thienyl, 2-, or 3-benzothienyl, or 1-, 2- or 5-tetrazolyl, each of which is optionally substituted with 1 to 5 substituents independently selected at each

occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

C₃-C₁₀ cycloalkyl optionally substituted with 1 to 6 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, oxo, halogen, C₁-C₆ haloalkyl, OR⁷, NR⁸R⁹, (with the proviso that when two OR⁷ or NR⁸R⁹ substituents are geminally located on the same carbon R⁷ is not H and the geminally located OR⁷ or NR⁸R⁹ substituents can be taken together to form a C₂-C₄ ketal, oxazoline, oxazolidine, imidazoline, or imidazolidine heterocycle), C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, oxo, hydroximino, C₁-C₆ alkoximino, SO₂NR⁸R⁹, SO₂R⁷, heterocycloalkyl, aryl, heteroaryl, where aryl or heteroaryl is optionally substituted with 1 to 5 substituents independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), with the proviso that 2 adjacent substituents can optionally form together a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

aryl or heteroaryl, optionally substituted with 1 to 5 substituents independently selected at each occurrence from halogen, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

or

3- or 4-piperidinyl, 3-pyrrolidinyl, 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-
tetrahydropyranyl, 3-tetrahydrofuranyl, 3- or 4-tetrahydrothiopyranyl, 3- or 4-(1,1-
dioxo) tetrahydrothiopyranyl, 1-azabicyclo[4.4.0]decyl, 8-azabicyclo[3.2.1]octanyl,
norbornyl, quinuclidinyl, indolin-2-one-3-yl, 2-(methoximino)-perhydroazepin-6-yl,
each optionally substituted with 1 to 5 substituents independently selected at each
occurrence from R⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, CN, COOR⁷
SO₂NR⁸R⁹, and SO₂R⁷;

R⁶ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₄
alkenyl, aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl each of which is optionally
substituted with 1 to 5 substituents independently from halogen, C₁-C₆ haloalkyl,
OR¹³, NR⁸R⁹, C₁-C₆ alkyl-OR¹³, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN,
SO₂NR⁸R⁹, and SO₂R⁷;

or R⁶ and R² jointly form with the two nitrogens to which they are bound a C₂ - C₅
aminocarbocycle optionally substituted at each occurrence by R⁷;

R⁷ is independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-
C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₃ haloalkyl, or
heterocycloalkyl, C₁-C₈ alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C₁-C₈
alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl
each optionally substituted with 1 to 5 substituents independently selected from
halogen, C₁-C₆ haloalkyl, OR¹³, NR⁸R⁹, C₁-C₆ alkyl-OR¹³, C₁-C₆ alkyl-NR⁸R⁹,
CONR⁸R⁹, COOR¹³, CN, SO₂NR⁸R⁹, and SO₂R¹³, with the proviso that when R⁷ is
SO₂R¹³, R¹³ cannot be H;

R⁸ and R⁹ are independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀
cycloalkyl, C₂-C₆ alkenyl, C₃-C₁₀ cycloalkenyl, C₂-C₆ alkynyl, heterocycloalkyl, C₁-
C₈ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆
heteroarylalkyl, or R⁸ and R⁹, taken together, can form a C₃-C₆ aminocarbocycle or a
C₂-C₅ aminoheterocycle each of which is optionally substituted with C₁-C₆ alkyl, C₃-
C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₃ haloalkyl,

or heterocycloalkyl, C₁-C₈ alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C₁-C₈ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl;
R¹¹ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl;

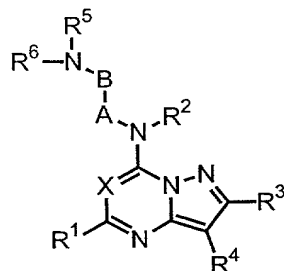
5 R¹² is selected from H, aryl, heteroaryl, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, optionally substituted with OR⁷, NR⁸R⁹, C₃-C₆ aminocarbocycle, or C₂-C₅ aminoheterocycle;

10 R¹³ is independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₁-C₆ haloalkyl, with the proviso that when R⁷ is SO₂R¹³, R¹³ cannot be H; and

R¹⁴ is H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₄ alkenyl, C₂-C₄ alkynyl, halo, or CN.

15 or a pharmaceutically acceptable salt, hydrate or prodrug thereof.

24. A compound in accordance with formula I



or a pharmaceutically acceptable salt, hydrate or prodrug thereof

20 wherein:

X is N or CR¹⁴;

R¹ is selected from H, C₁-C₆ alkyl, C₃-C₆ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

25

R² is H, C₁ – C₆ alkyl, C₃-C₁₀ cycloalkyl or (C₃-C₁₀ cycloalkyl) C₁ – C₆ alkyl, wherein each alkyl or cycloalkyl group may be optionally substituted with 1 to 3 R^{7a} groups;

R² may optionally join with R⁵ and the two and the 2 nitrogen atoms to which they are bound to form a 6 to 10 membered heterocyclic ring optionally substituted at each carbon with R^{7a}

5 or R² and A may optionally join to form a 3 to 8 membered heterocyclic ring optionally substituted at each carbon with R^{7a}; or

or R² and B optionally join to form a 4 to 10 membered heterocyclic ring optionally substituted at each carbon with R^{7a} or

A represents an alkyl chain of 1, 2 or 3 carbon atoms which is optionally mono- or di-substituted
10 at each carbon with substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, or A and B jointly form a C₃-C₆ carbocycle, optionally substituted at each occurrence with R^{7a};

B represents an alkyl chain of 1, 2 or 3 carbons atoms, which is optionally mono- or di-substituted at each carbon with substituents independently selected from

15 B represents an alkyl chain of 1,2 or 3 carbons atoms, which is optionally mono- or di-substituted at each carbon with substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷; C₁-C₆ cyanoalkyl, NR⁸R⁹, and C₁-C₆ alkyl-NR⁸R⁹, or

20 B and R⁵ may jointly form a 4 to 7 membered heterocyclic ring, which is optionally substituted at each atom with R^{7a};

R³ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, C₂-C₆ alkynyl, cyano, halo, C₁-C₆ haloalkyl, OR⁷, C₁-C₆ alkyl-OR⁷, C₁-C₆

25 cyanoalkyl, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹;

R⁴ is selected from aryl or heteroaryl, each of which is substituted with 1 to 5 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, C₁-C₆ alkynyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, C₁-C₆ alkyl-OR⁷, NR⁸R⁹, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹,
30 C₁-C₆ alkyl-CONR⁸R⁹, COOR⁷, C₁-C₆ alkyl-COOR⁷, CN, C₁-C₆ alkyl-CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-

oxazolidinyl), C₂-C₄ alkynyl wherein at least one of the positions ortho or para to the point of attachment of the aryl or heteroaryl ring to the pyrazole is substituted;

R⁵ is selected from:

C₁-C₆ alkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, each of which is substituted with 1 to 5 groups independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, OR⁷, NR⁸R⁹, (with the proviso that when two OR⁷ or NR⁸R⁹ substituents are geminally located on the same carbon R⁷ is not H and the geminally located OR⁷ or NR⁸R⁹ substituents can be taken together to form a C₂-C₄ ketal, oxazoline, oxazolidine, imidazoline, or imidazolidine heterocycle), C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, oxo, hydroximino, C₁-C₆ alkoximino, SO₂NR⁸R⁹, SO₂R⁷, heterocycloalkyl, aryl, heteroaryl, where aryl or heteroaryl is optionally substituted with 1 to 5 substituents independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), with the proviso that 2 adjacent substituents can optionally form together a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring; with the proviso that C₁-C₆ alkyl group is substituted with a C₁-C₆ alkyl group to give a C₇-C₁₀ alkyl group

Aryl(C₁-C₆) alkyl, heteroaryl(C₁-C₆)alkyl, aryl(C₅-C₈)cycloalkyl, or heteroaryl(C₅-C₈)cycloalkyl, each of which is optionally substituted with 1 to 5 substituents independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

C₂-C₆ alkenyl, C₂-C₆ alkynyl, C₃-C₁₀ cycloalkenyl, or a 3 to 10 membered mono- or bicyclic heterocycle containing 1-3 O, S or N atoms, each of which is optionally substituted with 1 to 6 substituents independently selected from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, OR⁷, NR⁸R⁹, (with the proviso that when two OR⁷ or NR⁸R⁹ substituents are geminally located on the same carbon R⁷ is not H and the geminally located OR⁷ or NR⁸R⁹ substituents can be taken together to form a C₂-C₄ ketal, oxazoline, oxazolidine, imidazoline, or imidazolidine heterocycle), C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, oxo, hydroximino, C₁-C₆ alkoximino, SO₂NR⁸R⁹, SO₂R⁷, COR⁷, heterocycloalkyl, aryl, C₁-C₆ alkylaryl, heteroaryl, C₁-C₆ alkylheteroaryl where aryl or heteroaryl is optionally substituted with 1 to 5 substituents independently selected at each occurrence from C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), with the proviso that 2 adjacent substituents can optionally form together a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

or

aryl or heteroaryl, optionally substituted with 1 to 5 substituents independently selected at each occurrence from halogen, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₆ alkenyl, halogen, C₁-C₆ haloalkyl, trifluoromethylsulfonyl, OR⁷, NR⁸R⁹, C₁-C₆ alkyl-OR⁷, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, SO₂R⁷, aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl), wherein any 2 adjacent substituents may be taken together to form a C₃-C₁₀ cycloalkyl ring, a C₃-C₁₀ cycloalkenyl ring or a heterocycloalkyl ring;

R⁶ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₂-C₄ alkenyl, aryl(C₁-C₆)alkyl, heteroaryl(C₁-C₆)alkyl each of which is optionally substituted with 1 to 5 substituents independently from halogen, C₁-C₆ haloalkyl, OR¹³, NR⁸R⁹, C₁-C₆ alkyl-OR¹³, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR⁷, CN, SO₂NR⁸R⁹, and SO₂R⁷;

R⁷ is independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₃ haloalkyl, or heterocycloalkyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl each optionally substituted with 1 to 5 substituents independently selected from halogen, C₁-C₆ haloalkyl, OR¹³, NR⁸R⁹, C₁-C₆ alkyl-OR¹³, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR¹³, CN, SO₂NR⁸R⁹, and SO₂R¹³;

R^{7a} is independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₃ haloalkyl, or heterocycloalkyl, C₁-C₈ alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C₁-C₈ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl each optionally substituted with 1 to 5 substituents independently selected from halogen, C₁-C₆ haloalkyl, OR¹³, NR⁸R⁹, C₁-C₆ alkyl-OR¹³, C₁-C₆ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR¹³, CN, SO₂NR⁸R⁹, and SO₂R¹³, with the proviso that when R^{7a} is SO₂R¹³, R¹³ cannot be H;

R⁸ and R⁹ are independently selected at each occurrence from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₂-C₆ alkenyl, C₃-C₁₀ cycloalkenyl, C₂-C₆ alkynyl, heterocycloalkyl, C₁-C₈ alkanoyl, , aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl, or R⁸ and R⁹ taken together, can form a C₃-C₆ aminocarbocycle or a C₂-C₅ aminoheterocycle each of which is optionally substituted with C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, C₃-C₁₀ cycloalkenyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl, C₁-C₃ haloalkyl, or heterocycloalkyl, C₁-C₈ alkylsulfonyl, arylsulfonyl, heteroarylsulfonyl, C₁-C₈ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₆ arylalkyl or C₁-C₆ heteroarylalkyl;

R¹¹ is selected from H, C₁-C₆ alkyl, C₃-C₁₀ cycloalkyl, (C₃-C₁₀ cycloalkyl) C₁-C₆ alkyl;

- R^{12} is selected from H, aryl, heteroaryl, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, optionally substituted with OR^7 , NR^8R^9 , C_3 - C_6 aminocarbocycle, or C_2 - C_5 aminoheterocycle;
- 5 R^{13} is independently selected at each occurrence from H, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, C_2 - C_6 alkenyl, C_2 - C_6 alkynyl, C_1 - C_6 haloalkyl, with the proviso that when R^7 is for SO_2R^{13} , R^{13} cannot be H; and
- R^{14} is H, C_1 - C_6 alkyl, C_3 - C_{10} cycloalkyl, (C_3 - C_{10} cycloalkyl) C_1 - C_6 alkyl, C_2 - C_4 alkenyl, C_2 - C_4 alkynyl, halo, or CN.
- 10
25. A compound according to Claim 24, wherein R^{14} is H, C_1 - C_4 alkyl, F or Cl.
- 15
26. A Compound according to Claim 25, wherein R' is H, C_1 - C_4 alkyl, (C_3 - C_6 cycloalkyl) C_1 - C_2 alkyl, where the alkyl and cycloalkyl groups are optionally substituted with 1-3 fluorines. R^3 is H, C_1 - C_4 alkyl, (C_3 - C_6 cycloalkyl) C_1 - C_2 alkyl, where the alkyl and cycloalkyl groups are optionally substituted with 1-3 fluorines.
- 20
- A is CH_2 , optionally substituted with one or two of the following: F, CF_3 , or C_1 - C_3 alkyl; B is a 1, 2 or 3 carbon chain, optionally substituted with one or two of the following: F, CF_3 , or C_1 - C_3 alkyl.
- 25
27. A Compound according to Claim 26, wherein R^4 is phenyl, substituted with 2 or 3 substituents independently selected from C_1 - C_3 alkyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, (C_3 - C_5 cycloalkyl) C_1 - C_2 alkyl, C_2 - C_6 alkenyl, F, Cl, C_1 - C_2 fluoroalkyl, OR^7 , C_1 - C_3 alkyl- OR^7 , NR^8R^9 , C_1 - C_6 alkyl- NR^8R^9 , $CONR^8R^9$, C_1 - C_3 alkyl- $CONR^8R^9$, $COOR^7$, C_2 - C_6 alkynyl, wherein the phenyl ring is minimally 2,4 disubstituted.
- 30
27. A Compound according to Claim 26, wherein

R₂ is H;

R⁶ is H;

R⁴ is phenyl, substituted with 2 or 3 substituents independently selected from C₁-C₃ alkyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, C₂-C₄ alkenyl, F, Cl, CF₃, CHF₂, CH₂CF₃, OMe, OCF₃,

5 OEt, OPr, OiPr, C₂-C₄ alkyl OH, C₂-C₆ alkynyl, wherein the phenyl ring is minimally 2,4 di-substituted.

28. A Compound according to Claim 27, wherein

A is CH₂;

10 B is CH₂;

B and R₅ form a 5 to 7 membered heterocyclic ring, substituted on carbon with R^{7a},

R^{7a} is independently selected at each occurrence from H, C₁-C₃ alkyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, (C₃-C₆ cycloalkyl) C₁-C₂ alkyl, C₁-C₂ fluoroalkyl, heterocycloalkyl, C₁-C₄ alkanoyl, aroyl, heteroaroyl, aryl, heteroaryl, C₁-C₂ arylalkyl or C₁-C₂ heteroarylalkyl

each optionally substituted with 1 to 3 substituents independently selected from F, Cl, CF₃, OR¹³, NR⁸R⁹, C₁-C₂ alkyl-OR¹³, C₁-C₂ alkyl-NR⁸R⁹, CONR⁸R⁹, COOR¹³, and CN;

R⁸ is H, C₁-C₃ alkyl, CF₃ or CH₂CF₃.

R⁹ is H or C₁-C₃ alkyl.

R¹³ is H, C₁-C₃ alkyl, CF₃ or CH₂CF₃.

29. A Compound according to Claim 27, wherein

A is CH₂, optionally substituted with one or two of the following: F, CF₃, or methyl, ethyl, isopropyl;

B is CH₂, optionally substituted with one or two of the following: F, CF₃, methyl, ethyl, or

25 Isopropyl.

30. A Compound according to Claim 29, wherein

R⁵ is C₁-C₇, alkyl, C₃-C₆cycloalkyl, or C₃-C₆ cycloalkyl C₁-C₂ alkyl, substituted with F, CF₃, OR⁷ or NR⁸R⁹;

A is CH₂, optionally substituted with methyl;

30 B is CH₂, optionally substituted with methyl;

X is N or CH.

31. A compound according to Claim 30, wherein

R^7 is H, C_1 - C_3 alkyl, CF_3 or CH_2CF_3 ;

R^8 is H, C_1 - C_3 alkyl, CF_3 or CH_2CF_3 ;

R^9 is H or C_1 - C_3 alkyl or NR^8R^9 taken together to form a pyrrolidine, piperidine or morpholine ring.

32. A Compound according to Claim 29, wherein

R^5 is 3- or 4- tetrahydropyranyl, 3-tetrahydrofuranlyl, 3- or 4-tetrahydrothiopyranyl, 3- or 4-cyclohexenyl, or 3-cyclopentenyl, optionally substituted with 1 or 2 substituents selected from C_1 - C_3 alkyl;

A is CH_2 , optionally substituted with methyl;

B is CH_2 optionally substituted with methyl; and

X is N or CH.

33. A Compound according to Claim 29, wherein

R^5 is 3- or 4-piperidinyl or 3-pyrrolidinyl, optionally substituted on 1 or 2 carbons with C_1 - C_3 alkyl, and one substituent on nitrogen from H, C_1 - C_6 , alkyl, C_3 - C_6 cycloalkyl, C_3 - C_6 cycloalkenyl, (C_3 - C_6 cycloalkyl) C_1 - C_2 alkyl, C_1 - C_4 alkenyl, C_1 - C_3 fluoroalkyl, C_2 - C_4 alkyl- OR^7 , C_2 - C_4 alkyl- NR^8R^9 , heterocycloalkyl, CO - C_1 - C_4 alkyl, aryl, C_1 - C_3 , alkylaryl, heteroaryl, C_1 - C_3 alkylheteroaryl where aryl or heteroaryl is optionally substituted with 1 to 3 substituents independently selected at each occurrence from C_1 - C_3 alkyl, F, Cl, C_1 - C_2 fluoroalkyl, OR^7 , NR^8R^9 , C_1 - C_2 alkyl- OR^7 , C_1 - C_2 alkyl- NR^8R^9 , $CONR^8R^9$, $COOR^7$, CN, $SO_2NR^8R^9$, SO_2R^7 , aryl, heteroaryl, heterocycloalkyl, 3-, 4-, or 5-(2-oxo-1,3-oxazolidinyl).

34. A Compound according to claim 33, wherein

R^5 is 3- or 4-piperidinyl or 3-pyrrolidinyl, optionally substituted on nitrogen with H, C_1 - C_3 alkyl, CH_2CF_3 , acetyl, pyridyl, benzyl, methylenepyridyl, pyrimidinyl, or pyrazinyl, where the aryl or heteroaryl group is optionally substituted with 1 to 2 substituents independently selected at each occurrence from C_1 - C_3 , alkyl, F, Cl, CF_3 , OR^7 , NR^8R^9 .

R^7 is H, C_1 - C_2 alkyl, CF_3 or CH_2CF_3 .

R^8 is H, C_1 - C_2 alkyl, CF_3 or CH_2CF_3 .

R⁹ is H or C₁-C₂ alkyl.

A is CH₂, optionally substituted methyl;

B is CH₂, optionally substituted with methyl;

X is N or CH.

5 35. A compound according to claim 29, wherein

R⁵ is C₁-C₂ arylalkyl, C₁-C₂ heteroarylalkyl, C₃-C₄ arylcycloalkyl, or C₃-C₄ heteroarylalkyl, where aryl is phenyl or naphthyl, and heteroaryl is 2-, 3-, or 4-pyridyl, 2-, 4- or 5 pyrimidinyl, triazinyl, 1-, 2- or 4-imidazolyl, 2-, 4-, or 5-oxazolyl, isoxazolyl, indolyl, pyrazolyl, quinolyl, isoquinolyl, 2-, 4-, or 5-thiazolyl, benzothiadiazolyl, 1-, 3- or 4 pyrazolyl, 1-, 3- or 4-triazolyl, 2-triazinyl, 2-pyr, ziny, 2-, or 3-furanyl, 2-, or 3-thienyl, 2-, or 3-benzothienyl, or 1-, 2- or 5-tetrazolyl, each of which is optionally substituted with 1 to 3 substituents independently selected at each occurrence from C₁-C₃ alkyl, C₃-C₆ cycloalkyl, C₃-C₆ cycloalkenyl, (C₃-C₆ cycloalkyl) C₁-C₂ alkyl, C₁-C₆ alkenyl, F, Cl, C₁-C₂ fluoroalkyl, OR⁷, NR⁸R⁹, C₁-C₂ alkyl-OR⁷, C₁-C₂ alkyl-NR⁸R⁹ or CN.

36. A compound according to claim 35, wherein

R⁵ is phenethyl, pyridinylethyl, or 2-tetrahydronaphthyl, each of which is optionally substituted with 1 to 2 substituents independently selected at each occurrence from C₁-C₂ alkyl, F, Cl, CF₃, OR⁷, NR⁸R⁹.

R⁷ is H, C₁-C₂ alkyl, CF₃ or CH₂CF₃.

R⁸ is H, C₁-C₂ alkyl, CF₃ or CH₂CF₃.

R⁹ is H or C₁-C₂ alkyl.

A is CH, optionally substituted with methyl;

B is CH₂, optionally substituted with methyl;

X is N or CH.

37. A compound according to claim 28, where the structure is [3-(2,6-dichloro-4-methoxy-phenyl)-2, 5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-(6-methyl-piperidin-2-ylmethyl)-amine.

38. A compound according to claim 31, where the compound is selected from the group consisting of :
- 2- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethylamino}-butan-1-ol;
- 5 N- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethyl}-N'-methyl-cyclohexane-1,4-diamine;
- N- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethyl}-N'-ethyl-cyclohexane-1,4-diamine;
- 10 N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(4-morpholin-4-yl-cyclohexyl)-ethane-1,2-diamine;
- 4- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethylaminol}-cyclohexanol;
- 3- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethylamino}-propane-1,2-diol;
- 15 N- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethyl}-N'-isobutyl-cyclohexane-1,4-diamine;
- N- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethyl}-N'-isobutyl-cyclohexane-1,4-diamine;
- 20 4- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-1-methyl-ethylamino}-cyclohexanol;
- 2- {2-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-ylamino]-ethylamino}-cyclohexanol;
- 25 N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(4,4-trifluoro-butyl)-ethane-1,2-diamine;
- N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(2,2,2-trifluoro-ethyl)-ethane-1,2-diamine;
- N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(2-trifluoromethyl-cyclohexyl)-ethane-1,2-diamine;
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N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo
[1,5-a]pyrimidin-7-yl]-N'-(4-trifluoromethyl-cyclohexyl)-ethane
1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-
a]pyrimidin-7-yl]-N'-(2,2-difluoro-ethyl)-ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo
[1,5-a]pyrimidin-7-yl]-N'-(2-fluoro-1-methyl-ethyl)-ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazoto [1,
5-a]pyrimidin-7-yl]-N'-(2-fluoro-cyclohexyl)-ethane-1,2-diamine.

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39. A compound of claim 32, where the compound is selected from the group consisting of
N-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-
pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; N-[3-(2,4-
dichloro-6-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(tetrahydro-
pyran-4-yl)-ethane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-
pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; N1-[3-(2,
6-Dichloro-phenyl)-2, 5-dimethyl-pyrazo to [1,5-a]pyrimidin-7-yl]-N2&-(tetrahydro-
pyran-4-yl)-propane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-
pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(2-methyl-tetrahydro-furan-3-yl)-ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-ethoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-
(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; 3,5-dichloro-4-{2,5-dimethyl-7-[2-
(tetrahydro-pyran-4-ylamino)-ethylamino]-pyrazolo [1,5-a]pyrimidin-3-yl}-benzonitrile;
N-[3-(2,6-dichloro-4-propoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-
(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; 2-(3,5-dichloro-4-(2,5-dimethyl-7-[2-
(tetrahydro-pyran-4-ylamino)-ethylamino]-pyrazolo [1,5-a]pyrimidin-3-yl}-phenyl)-
propan-2-ol; N-[3-(2,6-dichloro-4-cyclopent-1-enyl-phenyl)-2,5-dimethyl-pyrazolo[1,5-
a]pyrimidin-7-yl]-N'-(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; N-[8-(2,6-dichloro-4-
ethoxy-phenyl)-2, 7-dimethyl-pyrazolo [1,5-a] [1,3,5]triazin-4-yl]-N'-(tetrahydro-pyran-4-
yl)-ethane-1,2-diamine; (3,5-dichloro-4-(2,5-dimethyl-7-[2-(tetrahydro-pyran-4-
ylamino)-ethylamino]-pyrazolo[1,5-a]pyrimidin-3-yl}-phenyl)-methanol; N-[3-(2,6-
dichloro-4-ethoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(2-methyl-

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- tetrahydro-furan-3-yl)-ethane-1,2-diamine; N-[5-tert-butyl-3-(2,6-dichloro-4-methoxy-phenyl)-2-methyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-5-ethyl-2-methyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(tetrahydro-pyran-4-yl)-ethane-1,2-diamine; N-cyclohex-3-enyl-N'-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine; N-cyclohex-3-enyl-N'-[8-(2,6-dichloro-4-methoxy-phenyl)-2,7-dimethyl-pyrazolo[1,5-a][1,3,5]triazin-4-yl]-ethane-1,2-diamine; N-cyclopent-3-enyl-N'-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine.
40. A compound of Claim 34 where the structure is selected from the group consisting of N-[3-(2,6-dichloro-phenyl)-2,5-dimethyl pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-ethyl-piperidin-5-a]pyrimidin-7-yl]-N'-(2,2, 6, 6-tetramethyl-piperidin-4-yl)-ethane-1,2-diamine; N-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-19 piperidin-4-yl-ethane-1,2-diamine; N-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-ethyl-piperidin-3-yl)-ethane-1,2-diamine; N-(1-benzyl-pyrrolidin-3-yl)-N'-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine; N-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-pyrimidin-2-yl-ethane-1,2-diamine; N-(1-benzylpiperidin-4-yl)-N'-[3-(2,4-dichloro-6-methoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine; N-(1-benzyl-piperidin-4-yl)-N'-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-methyl-piperidin-4-yl)-ethane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5 dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(1-ethyl-piperidin-4-yl)-ethane-1,2-diamine; N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-isopropyl-piperidin-4-yl)-ethane-1,2-diamine;

- N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(2,2,6,6-tetramethyl-piperidin-4-yl)ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-ethyl-piperidin-3-yl)-ethane-1,2-diamine;
5 N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a] pyrimidin-7-yl]-N'-piperidin-4-yl-ethane-1,2-diamine;
N²-(1-Benzyl-piperidin-4-yl)-N'-[3-(2,6-dichloro-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-propane-1,2-diamine;
N-[3-(2,6-Dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyridin-3-ylmethyl-piperidin-4-yl)-ethane-1,2-diamine;
10 N-[3-(2,6-Dichloro-4-methoxyphenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyridin-4-ylmethyl-piperidin-4-yl)-ethane-1,2-diamine;
3,5-Dichloro-4-[2,5-dimethyl-7-[2-(1-phenyl-pyrrolidin-3-ylamino)-ethylamino]-pyrazolo[1,5-a]pyrimidin-3-yl]-phenol;
15 N-[3-(2,6-2,5-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyridin-2-ylmethyl-piperidin-4-yl)-ethane-1,2-diamine;
3,5-dichloro-4-[2,5-dimethyl-7-[2-(1-pyrimidin-2-yl-piperidin-4-ylamino)-ethylamino]-pyrazolo [1,5-a]pyrimidin-3-yl] - benzonitrile;
20 N-[3-(2,6-dichloro-4-ethoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
25 N-(1-benzyl-piperidin-4-yl)-N'-[3(2,6-dichloro-4-ethoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-ethane-1,2-diamine;
N-[3-(2,6-dichloro-phenyl)-5-ethyl-2-methyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
30 N-[3-(2,6-dichloro-phenyl)-5-isopropyl-2-methyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;

- N-[3-(2,4-dichloro-phenyl)-5-isopropyl-2-methyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- N'-[3-(2,6-dichloro-4-ethoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;
- 5 N'-[3-(2,6-dichloro-4-methoxy-phenyl)-5-isopropyl-2-methyl-pyrazoto [1, 5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)propane-1,2-diamine;
- N-[3-(2,6-dichloro-4-methoxy-phenyl)-5-ethyl-2-methylpyrazoto [1, 5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- 10 N'-[3-(2,6-dichloro-4-methoxy-phenyl)-2-methyl-5-propyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;
- N'-[3-(2,6-dichloro-4methoxy-phenyl)-5-ethyl-2-methyl-pyrazoto [1, 5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-ylpiperidin-4-yl)-propane-1,2-diamine;
- 15 N-[3-(2,6-dichloro-phenyl)-2-methyl-5-propylpyrazoto [1, 5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-pip eridin-4-yl)-ethane-1,2-diamine;
- N'-[3-(2,6-dichloro-phenyl)-2-methyl-5-propyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;
- 20 N'-[3-(2,6-dichloro-phenyl)-5-ethyl 2-methyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)-propane1,2-diamine;
- N-[5-ethyl-2-methyl-3-(2,4,6-trimethyl-phenyl)-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- N'-[5-ethyl-2-methyl-3-(2,4,6-trimethyl-phenyl)-pyrazolo[1,5-a]pyrimidin-7-yl]-N²-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;
- 25 N-[3-(2,6dichloro-4-ethynyl-phenyl)-2,5-dimethylpyrazolo [1, 5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- N-[2-methyl-5 -propyl-3 -(2,4, 6-trimethyl-phenyl)-pyrazo to [1, 5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- N-[2,5-dimethyl-3-(2,4,6-trimethylphenyl)-pyrazolo [1, 5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
- 30 N'-[3-(2,6-Dimethyl-phenyl)-5-ethyl-2-methyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;

- N-[3-(2,6-dimethyl-phenyl)-
2-methyl-5-propyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-
ethane-1,2-diamine;
N'-[3-(2,6-Dimethyl-phenyl)-2-methyl-5-propyl-pyrazolo[1,5-
5 a]pyrimidin-7-yl]-NZ-(1-pyrimidin-2-yl-piperidin-4-yl)-propane-1,2-diamine;
N'-[3-(2,6dimethyl-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-
N²-(1-pyrimidin-2-ylpiperidin-4-yl)-propane-1,2-diamine;
N-[3-(2,4-dimethyl-phenyl)-5-ethyl-2-methyl-
pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(1-pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine;
10 N-[3-(2,4-dimethyl-phenyl)-2-methyl-5-propyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(1-
pyrimidin-2-yl-piperidin-4-yl)-ethane-1,2-diamine; and
1-[4-(1-{[3-(2,6-dichloro-4-methoxyphenyl)-2,5-dimethyl-pyrazolo [1,
5-a]pyrimidin-7-ylamino]-methyl] -propylamino)piperidin-1-yl]-ethanone.
41 A compound of Claim 37 where the structure is selected from the group
15 consisting of
N-[2,5-dimethyl-3-(2,4,6-trimethylphenyl)-pyrazolo [
1,5-a]pyrimidin-7-yl]-N'-[2-(4-methoxy-phenyl)-ethyl]-ethane-1,2diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-
7-yl]-N'-[2-(4-methoxy-phenyl)-ethyl]-ethane-1,2-diamine;
20 N-[3-(2,6-dichloro-4-
methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-[2-(3-ethoxy-4-
methoxy-phenyl)-ethyl]-ethane-1,2-diamine;
N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-
dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-[2-(4-ethoxy-3-methoxy-phenyl)-ethyl]-
25 ethane-1,2-diamine;N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,a]pyrimid
in-7-yl]-N'-(1,2,3,4-tetrahydro-naphthalen-2-yl)-ethane-1,2-diamine;
N-[3-(2,6-
dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(2-pyridin-
2-yl-ethyl)-ethane-1,2-diamine;
30 N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-
pyrazolo[1,5-a]pyrimidin-7-yl]-N'-(2-pyridin-3-yl-ethyl)-ethane-1,2-diamine; and

N-[3-(2,6-dichloro-4-methoxy-phenyl)-2,5-dimethyl-pyrazolo [1,5-a]pyrimidin-7-yl]-N'-(2-pyridin4-yl-ethyl)-ethane-1,2-diamine.

42. A method of treating obesity comprising administering to a mammal in need of such treatment a therapeutically effective amount of a compound of claim 23 or 24 or a prodrug thereof or a pharmaceutically acceptable salt of said compound or of said prodrug.

43. A method as recited in claim 42 wherein the amount of said compound administered is about 0.01 mg/kg/day to about 50 mg/kg/day.

44. A method as recited in claim 42 wherein the mammal is female or male human.

45. A pharmaceutical composition which comprises a therapeutically effective amount of compound of claim 24 or a prodrug thereof or a pharmaceutically acceptable salt of said compound or of said prodrug and a pharmaceutically acceptable carrier, vehicle or diluent.

46. A pharmaceutical composition for the treatment of obesity which comprises a therapeutically effective amount of compound of claim 24 or a prodrug thereof or a pharmaceutically acceptable salt of said compound or of said prodrug and a pharmaceutically acceptable carrier, vehicle or diluent.

47. A pharmaceutical combination composition comprising a therapeutically effective amount of a composition comprising: (a) first compound, said first compound being a compound of claim 24, a prodrug thereof, or a pharmaceutically acceptable salt of said compound or of said prodrug; and (b) a second compound, said second compound being a agonist, a thyromimetic, an eating behavior modifying agent or a NPY antagonist; and a pharmaceutical carrier, vehicle, diluent.

48. A method of treating obesity comprising administering to a mammal in need of such treatment: (a) first compound, said first compound being a compound of claim 24, a prodrug thereof, or a pharmaceutically acceptable salt of said compound or of said prodrug; and (b) a second compound, said second compound being a β_3 agonist, a thyromimetic, an eating behavior modifying agent or a NPY antagonist; and a

pharmaceutical carrier, vehicle, diluent; (and (c) wherein the amounts of the first and second compounds result in a therapeutic effect.

49. A kit comprising: (a) first compound, said first compound being a compound of claim 24 or 25, a prodrug thereof, or a pharmaceutically acceptable salt of said compound or of said prodrug; (b) a second compound, said second compound being a β_3 agonist, a thyromimetic, an eating behavior modifying agent or a NPY antagonist; and a pharmaceutical carrier, vehicle, diluent; and (c) means for containing said first and second unit dosage forms wherein the amounts of the first and second compounds result in a therapeutic effect,

50. A pharmaceutical combination composition comprising a therapeutically effective amount of a composition comprising (a) first compound, said first compound being a compound of claim 23 or 24, a prodrug thereof, or a pharmaceutically acceptable salt of said compound or of said prodrug; (b) a second compound, said second compound being an aldose reductase inhibitor, a glycogen phosphorylase inhibitor, a sorbitol dehydrogenase inhibitor, insulin metformin, acarbose, a thiazolidinedione, a glitazone, rezulin, troglitazone, a sulfonylurea, glipazide, glyburide, or chlorpropamide; (c) a pharmaceutical carrier, vehicle, or diluent.

51. A pharmaceutical composition according to claim 24 for the treatment of disorders or disease states caused by eating disorders, of obesity, bulimia nervosa, diabetes, dislipidemia, hypertension, memory loss, epileptic seizures, migraine, sleep disorders, pain, sexual/reproductive disorders, depression, anxiety, cerebral hemorrhage, shock, congestive heart failure, nasal congestion or diarrhea.

52. A method of selectively inhibiting binding of NPY, receptors, which comprises contacting a compound of claim 1 with neuronal cells, wherein the compound is present in an amount effective to produce a concentration sufficient to selectively inhibit binding of NPY peptides to NPY₁ receptors in vitro.

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